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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/716,350	11/20/2000	Bin Zhao	99CON105P-C	9215

7590 04/25/2002
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EXAMINER

CLARK, SHEILA V

ART UNIT PAPER NUMBER

2815

DATE MAILED: 04/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/716,350

Applicant(s)

Zhao

Examiner

Sheila V. Clark

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jan 7, 2002
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-72 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33-72 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

Claims 33-39, 44, 45, 46-48, 51-57, 62-66, 69-70 are rejected under 35 U.S.C. 102(e) as being anticipated by Tsai et al.

Tsai et al shows a first metal pad structure comprising a first interconnect metal 41 and first via pad structure 42 comprising a plurality of segments of a first via metal 423 and a first plurality of dielectric fillers 421. Said first metal may be formed of aluminum and the first metal via may be formed of tungsten. A second metal pad structure 42 comprising a plurality of via metal and dielectric is shown formed under said first.

The steps of fabricating are deemed to be inherently taught by Tsai et al.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 40-43, 49, 50, 58-61, 67-68, 71 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai et al

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Tsai et al teaches the features of the invention as discusses above except for use of a low-k dielectric. The failure of Tsai to limit the teachings of his invention to any one particular dielectric is deemed to suggests use of any conventional dielectric well known in this are such as those recited in the claims.

Claims 33-72 are rejected.

Chittipeddi et al, Tanaka, Stamper et al, Buynoski, Kida et al, Nozaki are cited to show bond pad structures having via pad structures having metal and dielectric fillers.

Applicants arguments filed 1-7-2002 have been considered but are deemed to moot in light of the new rejection rendered in this office action. The broad recitation of the via pad structure recited in the claims is deemed to recite well known pad structure such as that relied upon the rejection and those not used in a rejection but applicable such as Chittipeddi et al, Tanaka and Buynoski. It is suggested that the applicant consider revising the claims to recite more specifically the via pad structure of his invention such that it distinguishes from those pads referenced.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner S.V. Clark whose telephone number is (703) 308-4924.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee , can be reached on (703) 308-1690. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722 or 7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

April 18, 2001


SHEILA V. CLARK
PRIMARY EXAMINER